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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,420	10/15/2001	Kuo-Yu Chou	67,200-409	5300

7590 07/30/2003

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EXAMINER
RICHARDS, N DREW

ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/978,420	CHOU ET AL.	
	Examiner	Art Unit	
	N. Drew Richards	2815	

-- The MAILING DATE of this communication appears on th cov r sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/15/01* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 13 is objected to because of the following informalities: line 8 repeats "and wherein the at least one fuse layer". Appropriate correction is required.

2. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 5 has been added to amended claim 1 but claim 5 has not been cancelled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (US 2002/0155672 A1).

Wang et al. disclose in figures 1-4 and in paragraphs 1-23 a method for fabricating a microelectronic fabrication. Wang et al. disclose providing a substrate 100 and forming over the substrate a series of patterned conductor layers 102 separated by

a series of dielectric layers in figure 1 and paragraphs 6-8 and 17. Wang et al. also disclose forming over the substrate and in electrical connection with the series of patterned conductor layers at least one fuse layer 112 as shown in figure 2 where the fuse layer 112 is formed at a level no lower than a highest of the series of patterned conductive layers 102 and the fuse layer 112 and highest of the series of patterned conductive layers 102 are formed of different conductive materials. Wang et al. disclose in paragraphs 6-8 the use of fuses to connect normal memory cell arrays and redundant memory cell arrays where the fuse is formed on the uppermost layer of the semiconductor device, the same level as the bond pad. Though the figures show a single patterned conductive layer with fuses over it, it is inherently understood that the semiconductor substrate would include many patterned conductive layers separated by a series of dielectric layers for each memory array and that the fuses would be connected to some of the patterned conductive layers to allow for the fuses to substitute defective memory cells.

With regard to claim 2, the microelectronic fabrication is an integrated circuit microelectronic fabrication.

With regard to claim 3, the fuse layer is formed simultaneously with a bond pad layer as the same layer 12 is etched to form both the fuse and the bond pad.

With regard to claim 4, the fuse layer is formed simultaneously with an alignment mark. The bond pad 112b or Wang et al. is considered to be an alignment mark as the passivation layer is etched aligned with the bond pad to expose the bond pad, thus the bond pad is considered an alignment mark.

With regard to claims 5 and 6, the fuse layer and highest of the series of patterned conductive layers are formed of different conductive materials where the fuse is disclosed as being formed of aluminum and the highest of the series of patterned conductive layers are formed of copper.

With regard to claim 13, Wang et al. disclose in figures 1-4 and in paragraphs 1-23 a method for fabricating a microelectronic fabrication. Wang et al. disclose providing a substrate 100 and forming over the substrate a series of patterned conductor layers 102 separated by a series of dielectric layers in figure 1 and paragraphs 6-8 and 17. Wang et al. also disclose forming over the substrate and in electrical connection with the series of patterned conductor layers at least one fuse layer 112 as shown in figure 2 where the fuse layer 112 is formed at a level no lower than a highest of the series of patterned conductive layers 102 and wherein the at least one fuse layer is formed simultaneously with an alignment mark within the microelectronic fabrication. Wang et al. disclose in paragraphs 6-8 the use of fuses to connect normal memory cell arrays and redundant memory cell arrays where the fuse is formed on the uppermost layer of the semiconductor device, the same level as the bond pad. The bond pad 112b or Wang et al. is considered to be an alignment mark as the passivation layer is etched aligned with the bond pad to expose the bond pad, thus the bond pad is considered an alignment mark. Though the figures show a single patterned conductive layer with fuses over it, it is inherently understood that the semiconductor substrate would include many patterned conductive layers separated by a series of dielectric layers for each

memory array and that the fuses would be connected to some of the patterned conductive layers to allow for the fuses to substitute defective memory cells.

Response to Arguments

5. Applicant's arguments filed 7/11/03 have been fully considered but they are not persuasive.

Applicant has argued that Wang does not disclose the patterned conductor layer and fuse being formed of different materials. This is not persuasive as the patterned conductor layer is formed from layer 102 (figures 1-3) or layer 104 (figure 4) while the fuse is formed from layer 112. As disclosed in lines 3-4 of paragraph 17, conductor 102 is copper. As disclosed in line 10 of paragraph 18 layer 112 is aluminum. Thus, different materials.

Applicant also argues that Wang does not disclose a fuse formed simultaneously with an alignment mark. This is not persuasive since the bond pad 112b is considered to be an alignment mark. Photoresist 118 is aligned to bond pad 112b and thus the bond pad functions as an alignment mark. Applicant's argument that their alignment mark is formed employing a planarizing process is irrelevant as the process for forming the alignment mark is not claimed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (703) 306-5946. The examiner can normally be reached on M-F 8:00-5:30; Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

NDR
July 28, 2003

GEORGE ECKERT
PRIMARY EXAMINER